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FIG. 1

APPROVED	OG. FIG.
BY	CLASS/SUBCLASS
DRAFTSMAN	435
	199

T02220" 346T 60

GACCGCGGCAGCTCAGCCTCCCGCCGATTGTATGTTCCAGGCCTCAATGAGGAGTCCAAA 60
 M E P F K Q Q K V E D F Y D I G E E L G 20
 CATGAGCCATTCAAGCAGCAGAAGGTGGAGGACTTTTATGACATCGGAGAGGAGCTGGG 120
 S G Q F A I V K K C R E K S T G L E Y A 40
 GAGTGGCCAGTTTGCCATCGTGAAGAAGTGCCGGGAGAAGAGCACGGGGCTTGAGTATGC 180
 A K F I K K R Q S R A S R R G V S R E E 60
 AGCCAAGTTCATCAAGAAGCGGCAGAGCCGGGCGAGCCGGCGCGGTGTGAGCCGGGAGGA 240
 I E R E V S I L R Q V L H H N V I T L H 80
 GATCGAGCGGGAGGTGAGCATCCTGCGGCAGGTGCTGCACCACAATGTCATCACGCTGCA 300
 D V Y E N R T D V V L I L E L V S G G E 100
 CGACGTCTATGAGAACCGCACCGACGTGGTGCTCATCCTTGAGCTAGTGTCTGGAGGAGA 360
 L F D F L A Q K E S L S E E E A T S F I 120
 GCTCTTCGATTTCTGGCCCAAGAAGGAGTCACTGAGTGAGGAGGAGGCCACCAGCTTCAT 420
 K Q I L D G V N Y L H T K K I A H F D L 140
 TAAGCAGATCCTGGATGGGGTGAACCTTACACACAAAGAAAATTGCTCACTTTGATCT 480
 K P E N I M L L D K N I P I P H I K L I 160
 CAAGCCAGAAAACATTATGTTGTTAGACAAGAATATTCCCATTCCACACATCAAGCTGAT 540
 D F G L A H E I E D G V E F K N I F G T 180
 TGACTTTGGTCTGGCTCACGAAATAGAAGATGGAGTTGAATTTAAGAATATTTTTGGGAC 600
 P E F V A P E I V N Y E P L G L E A D M 200
 GCCGGAATTTGTTGCTCCAGAAATTGTGAACCTACGAGCCCCTGGGTCTGGAGGCTGACAT 660
 W S I G V I T Y I L L S G A S P F L G D 220
 GTGGAGCATAGGCGTCATCACCTACATCCTCTTAAGTGGAGCATCCCCTTTCTGGGAGA 720
 T K Q E T L A N I T S V S Y D F D E E F 240
 CACGAAGCAGGAAACACTGGCAAATATCACATCAGTGAGTTACGACTTTGATGAGGAATT 780
 F S H T S E L A K D F I R K L L V K E T 260
 CTTACGCCATACGAGCGAGCTGGCCAAGGACTTTATTCCGGAAGCTTCTGGTTAAAGAGAC 840
 R K R L T I Q E A L R H P W I T P V D N 280
 CCGGAAACGGCTCACAATCCAAGAGGCTCTCAGACACCCCTGGATCACGCCGGTGGACAA 900
 Q Q A M V R R E S V V N L E N F R K Q Y 300
 CCAGCAAGCCATGGTGCAGGAGGAGTCTGTGGTCAATCTGGAGAAGCTTCAGGAAGCAGTA 960
 V R R R W K L S F S I V S L C N H L T R 320
 TGTCCGCGAGGCGGTGGAAGCTTTCTCTCAGCATCGTGTCCCTGTGCAACCACCTCACCCG 1020
 S L M K K V H L R P D E D L R N C E S D 340
 CTCGCTGATGAAGAAGGTGCACCTGAGGCCGGATGAGGACCTGAGGAAGTGTGAGAGTGA 1080
 T E E D I A R R K A L H P R R R S S T S 360
 CACTGAGGAGGACATCGCCAGGAGGAAAGCCCTCCACCCACGGAGGAGGAGCAGCACCTC 1140
 CTAACTGGCCTGACCTGCAGTGGCCGCCAGGGAGGTTTGGGCCCAGCGGGGCTCCCTTCT 1200
 GTGCAGACTTTTGGACCCAGCTCAGCACCAGCACCCGGGCGTCTGAGCACTTTGCAAGA 1260
 GAGATGGGCCCCAAGGAATTGAGAAGAGCTTGCAAGCAAGCCAGGAGACCCTGGGAGCTGT 1320
 GGCTGTCTTCTGTGGAGGAGGCTCCAGCATTCCCAAAGCTCTTAATTCTCCATAAAATGG 1380
 GCTTTCTCTGTCTGCCATCCTCAGAGTCTGGGGTGGGAGTGTGGAATTAGGAAAACAAT 1440
 ATAAAGGACATCCTCATCATCACGGGGTGAAGGTCAGAGTAAGGCAGCCTTCTTCACAGG 1500
 CTGAGGGGGTTCAGAACCAGCCTGGCCAAAATACACCAGAGAGACAGAGTCTCCCCA 1560
 TTGGGAACAGGGTGATTGAGGAAAGTGAACCTTGGGTGTGAGGGACCAATCCTGTGACCT 1620
 CCCAGAACCATGGAAGCCAGGACGTCAGGCTGACCAACACCTCAGACCTTCTGAAGCAGC 1680
 CCATTGCTGGCCCGCCATGTTGTAATTTTGTCTATTTTATTAAActtctggtttacctg 1740
 aa 1742

FIG. 2A

APPROVED	O.G. FIG.
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DAP-kinase	13	YDTGGEELGSGQFAVVKCKREKSTGLQYAAKFIR
ZIP-kinase	13	YEMGGEELGSGQFAIVRKCRQKGTGKEYAAKFIR
DRP-1	13	YDIGEELGSGQFAIVKKCREKSTGLE YAAKFIR
DRAK1	61	LCPGRELGRGKFAVVRKCIKKDSGKEFAAKFMR
DRAK2	33	ILTSKELGRGKFAVVRQCISKSTGQ EYAAKFIR

DAP-kinase	46	KRRTKSSRRGVSRREDTEREVSILKEI-QHPNVI
ZIP-kinase	46	KRRLLSSRRGVSRREEIEREVNILLREI-RHPNII
DRP-1	46	KRRSRASRRGVSRREEIEREVSILRQV-LHHNVI
DRAK1	94	KRR----KGQDCRMEIIEHETAVLELAQDNPWVI
DRAK2	66	KRR----RGQDCRAEILHEIETAVLELAKSCP RVI

DAP-kinase	78	TLHEVYENKTDVILILELVAGGELFD-FLAEK-
ZIP-kinase	78	TLHDIFENKTDVVLILELVSGGELFD-FLAEK-
DRP-1	78	TLHDVYENRTDVVLILELVSGGELFD-FLAQK-
DRAK1	123	NLHEVYETASEMILVLEYAAGGEIFDQCVA DRE
DRAK2	95	NLHEVYENTSEIILILEY AAGGEIFSLCLPELA

DAP-kinase	109	ESLTEEEATEFLKQIILNGVYYLHSLQIAHFDL K
ZIP-kinase	109	ESLTEDEATQFLKQILDGVHYLHSKRIAHFDL K
DRP-1	109	ESLSEEEATSFIKQILDGVNYLHTKKIAHFDL K
DRAK1	156	EAFKEKDVQRLMRQILEGVHFLHTRDVVHLDL K
DRAK2	128	EMVSENDVIRLIKQILEGVYYLHQNNTVHLDL K

DAP-kinase	142	PENIMLLDRNVPKPRIKIIDFGLAHKIIDFGNEF
ZIP-kinase	142	PENIMLLDKNVPNPRIKLIDFGIAHKIEAGNEF
DRP-1	142	PENIMLLDKNIPPHIKLIDFGLAHEIEDGVEF
DRAK1	189	PQNILLTSESPLGD-IKIVDFGLSRILKNSEEL
DRAK2	161	PQNILLSSIYPLGD-IKIVDFGMSRKIGHACEL

DAP-kinase	175	KNIFGTPEFVVAPEIVNYEPLGLEADMWSIGVIT
ZIP-kinase	175	KNIFGTPEFVVAPEIVNYEPLGLEADMWSIGVIT
DRP-1	175	KNIFGTPEFVVAPEIVNYEPLGLEADMWSIGVIT
DRAK1	221	REIMGTPEYVVAPEILSYDPISMATDMWSIGVLT
DRAK2	193	REIMGTPEYLAPEILNYDPITTATDMWNIGITIA

DAP-kinase	208	YILLSGASPF LGDTKQETLANVSAVNYEFED EY
ZIP-kinase	208	YILLSGASPF LGETKQETLTNISAVNYDFDEE Y
DRP-1	208	YILLSGASPF LGDTKQETLANITSVSYDFDEE F
DRAK1	254	YVMLTGISPF LGNDKQETFLNISQMNLSYSE E E
DRAK2	226	YMLLTHTSPFVGEDNQETYLNISQVNV D YSEET

DAP-kinase	241	FSNTSALAKDFIRRLLVKDPKRRMTIQDSLQHP
ZIP-kinase	241	FSNTSELAKDFIRRLLVKDPKRRMTIAQSLEHS
DRP-1	241	FSHTSELAKDFIRKLLVKETRKRLTIQEALRHP
DRAK1	287	FDVLSESAVDFIRTL LVKKFPEDRATAEECLKHP
DRAK2	259	FSSVSOLATDFIQSLLVKNPEKRPTAEICLSHS

DAP-kinase	274	WI
ZIP-kinase	274	WI
DRP-1	274	WI
DRAK1	320	WL
DRAK2	292	WL

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APPROVED	O.G. FIG.	CLASS	SUBCLASS
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FIG. 2B

DAP-kinase	1	NMEKFKK---FAARKKWKOSVRLISLCQRLSR	29
DRP-1	1	NLENFRK---QYVRRRWKLSFSIVSLCNHLTR	29
smMLCK	1	SKDRMKK---YMARRKWQKTGHAVRAIGRLSS	29
CaMKIIa	1	TVDCCLKK---LNARRKLKGAILTTMLATRNFS	29
CaMKI	1	VSEQIKK---NFAKSKWKQAFNAT-AVVRHMR	28
CaMKIV	1	MDTAOKKLQEFNARRKLKAAVKAVVASSRLGS	32
ZIP-kinase	1	GEDSGRK----PERRRLKTTTRLKEYTIKSHSS	28

TO 220" 84/6 F 60

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WO 99/66030

09/719748

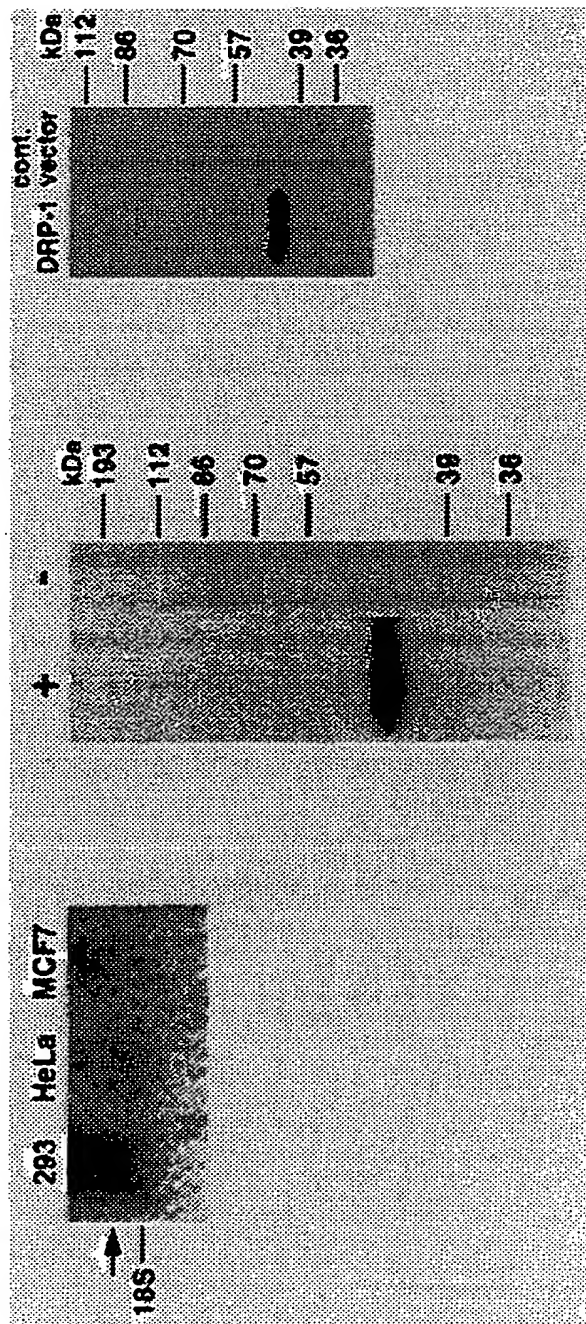
PCT/US99/13411

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FIG. 3C

FIG. 3B

FIG. 3A



APPROVED	O.G. FIG.
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FIG. 4A

FIG. 4B

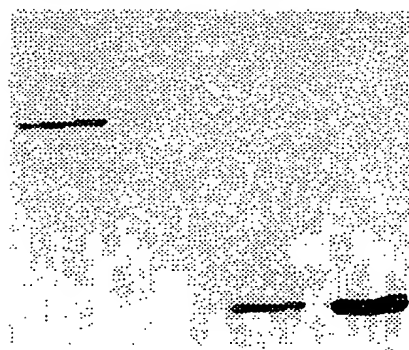
MOCK

DRP-1



FIG. 4C

DAP-kinase		DRP-1	
InSol	Sol	InSol	Sol



kDa

- 193
- 112
- 86
- 70
- 57
- 39
- 36

FIG. 4A

IP-Kinase

		6 / 16 DRP-1					
		MOCK		K42A		DRP-1	
Ca ²⁺ /CaM		+	-	+	-	+	-

kDa

97—

69—

46—

30—

14.3—

← DRP-1

← MLC

FIG. 5A

FIG. 5B

		DRP-1					
		MOCK		K42A		DRP-1	
Ca ²⁺ /CaM		+	-	+	-	+	-

Western

DRP-1

SUBSTITUTE SHEET (RULE 26)

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T.O. 2220-846760

APPROVED	O.G. FIG. —
BY	CLASS/SUBCLASS
DRAFTSMAN	435 194

T.0220" 84257250

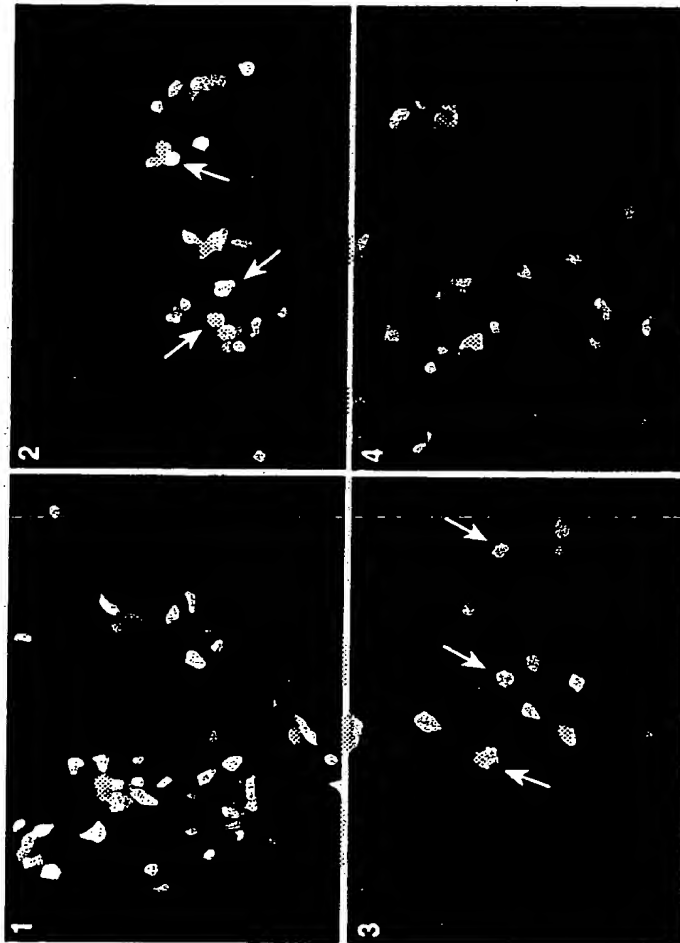


FIG. 6A

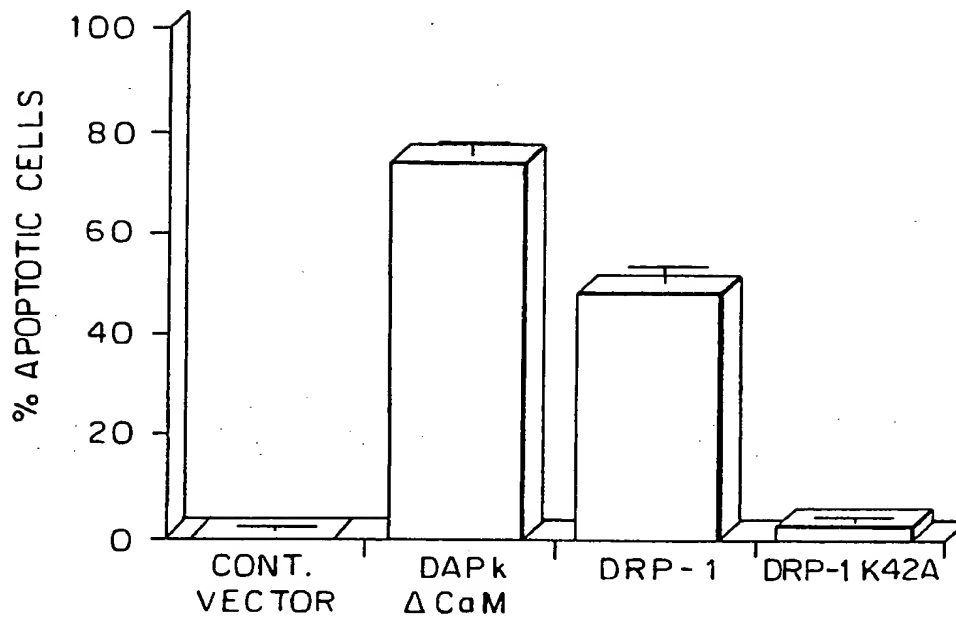
FIG. 6C

FIG. 6B

FIG. 6D

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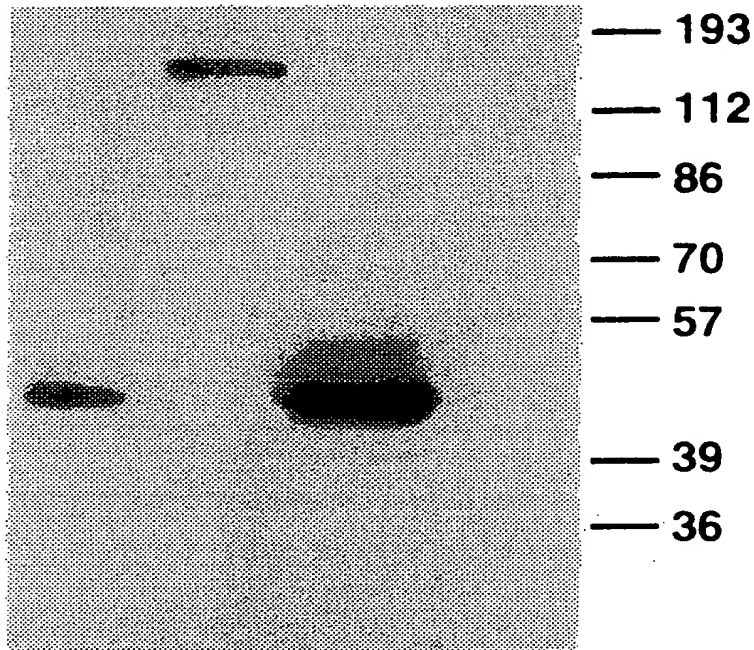
FIG. 7



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FIG. 8A

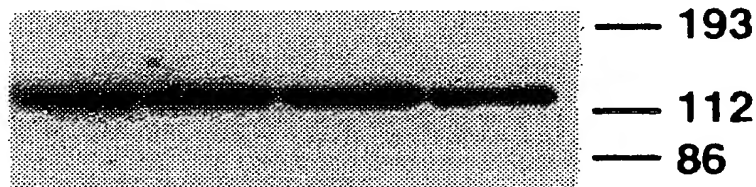
DAPk DRP-1 cont.
DRP-1 ΔCaM K42A vector kDa



Anti-Flag

FIG. 8B

DAPk DRP-1 cont.
DRP-1 ΔCaM K42A vector kDa



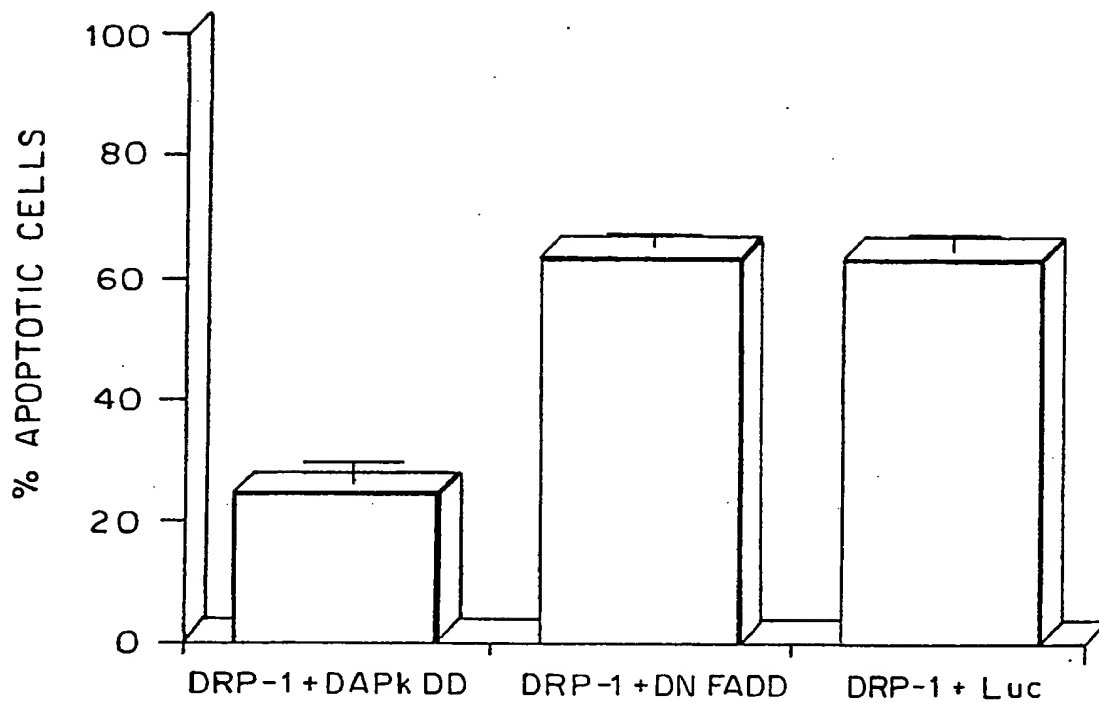
Anti-Vinculin

APPROVED	O.G. FIG.	—
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T04220" 84/6T/60

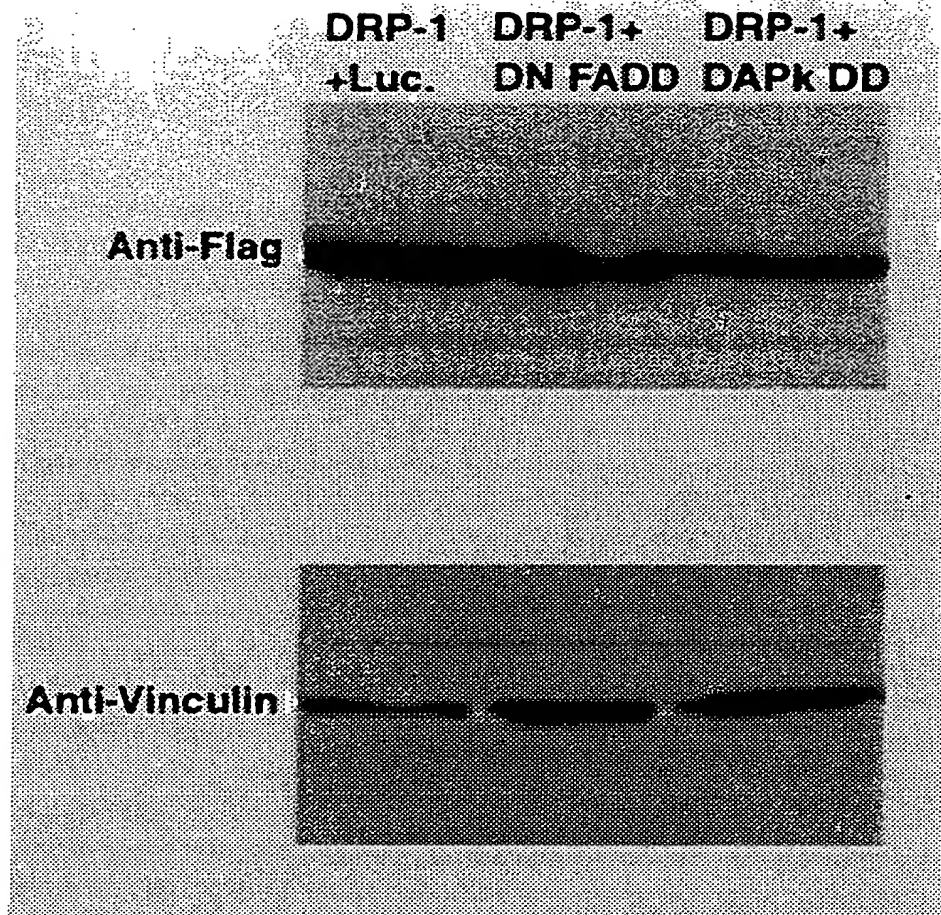
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FIG. 9A



APPROVED	O.G. FIG.	—
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FIG. 9B



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APPROVED	O.G. FIG.
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FIG. 10A

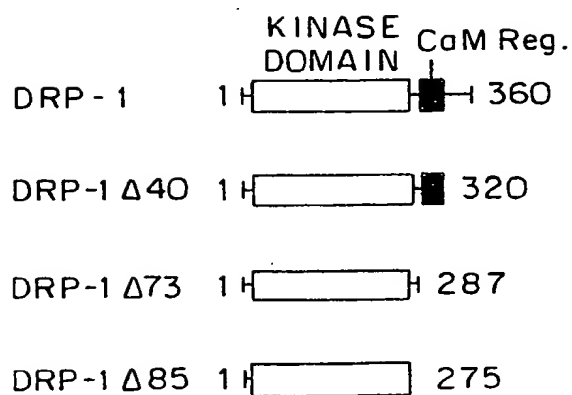
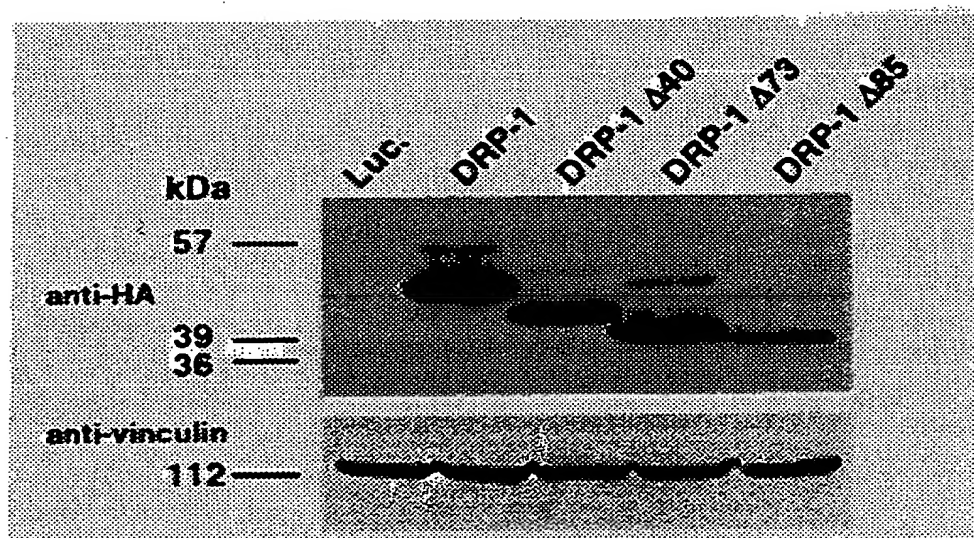


FIG. 10B



09/719748

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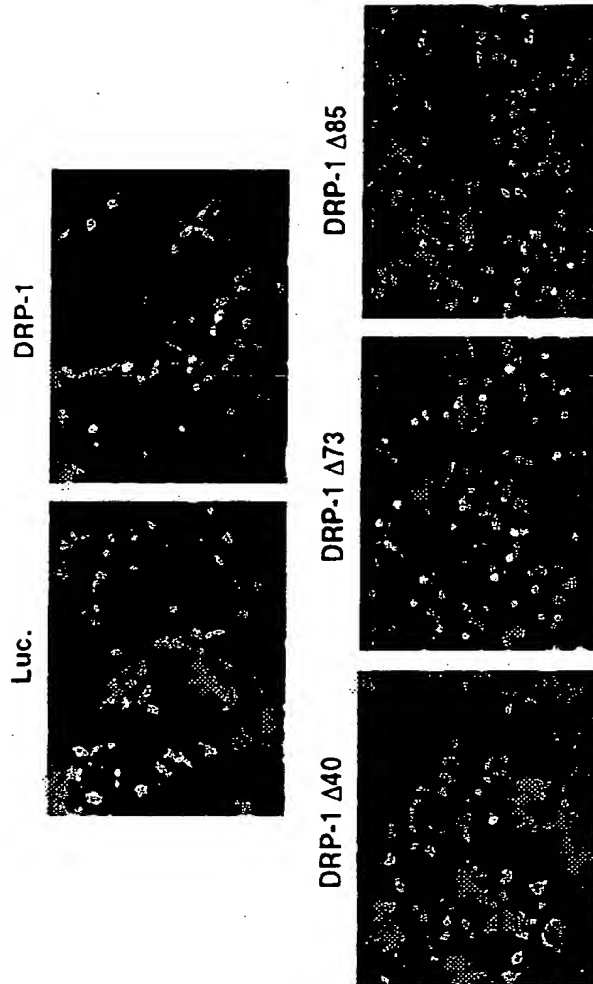
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APPROVED	O.G. FIG. —
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FO/2220" 84/26T/60

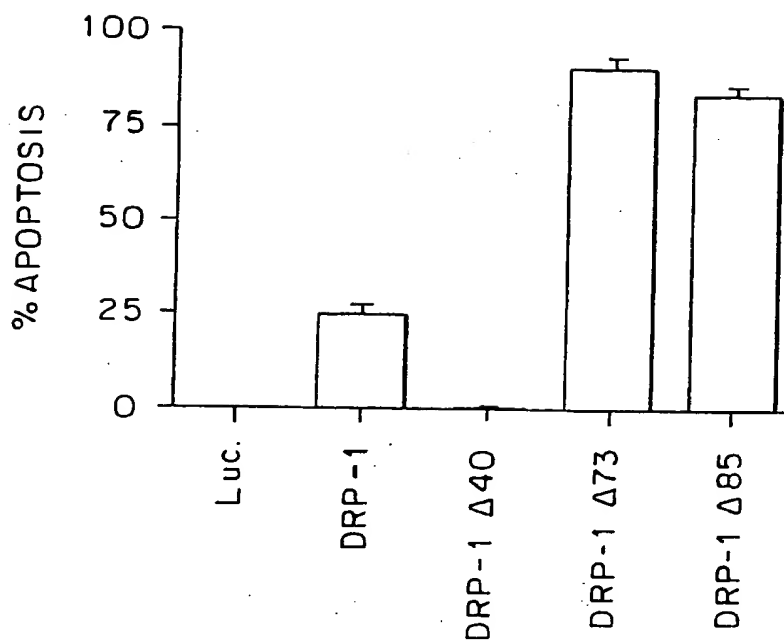
FIG. 11A



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APPROVED	OG, FIG.	—
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DRAFTSMAN		

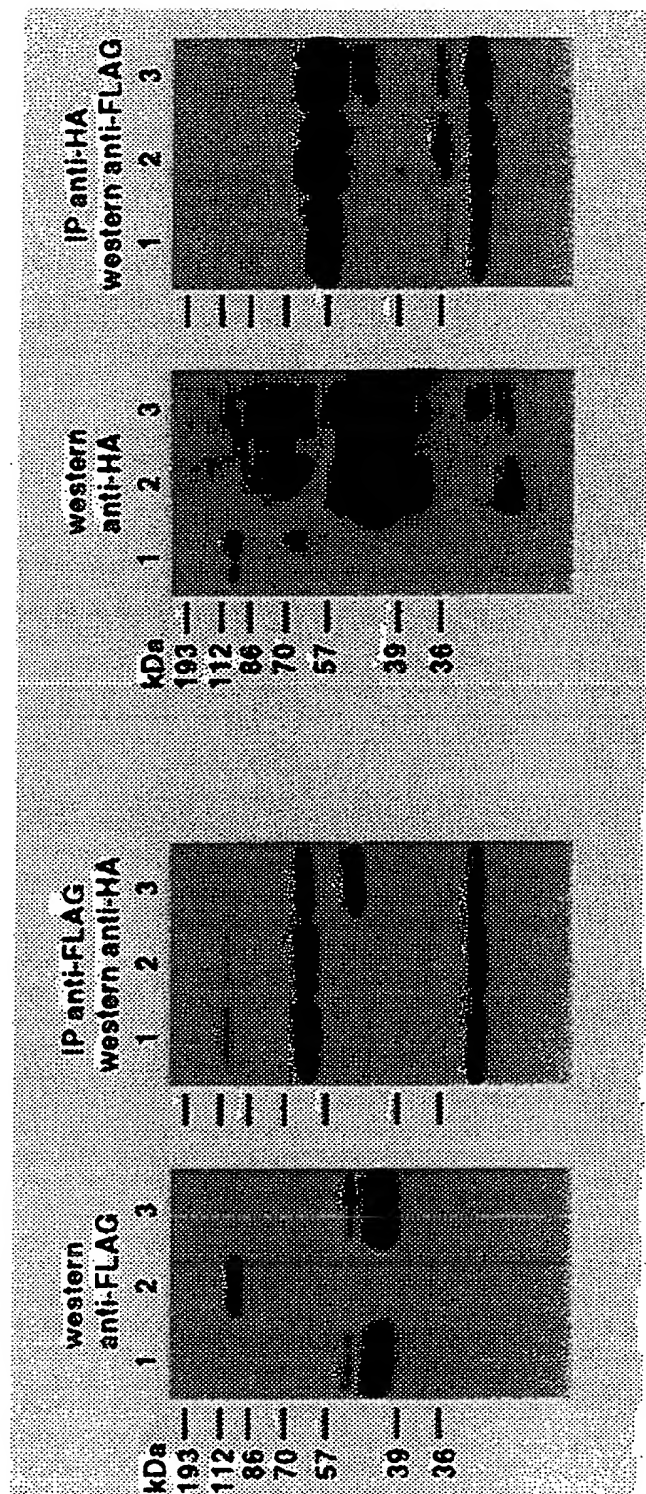
FIG. 11B



APPROVED	O.G. FIG.	—
BY	CLASS	SUBCLASS
	435	194
DRAFTSMAN		

FIG. 12A

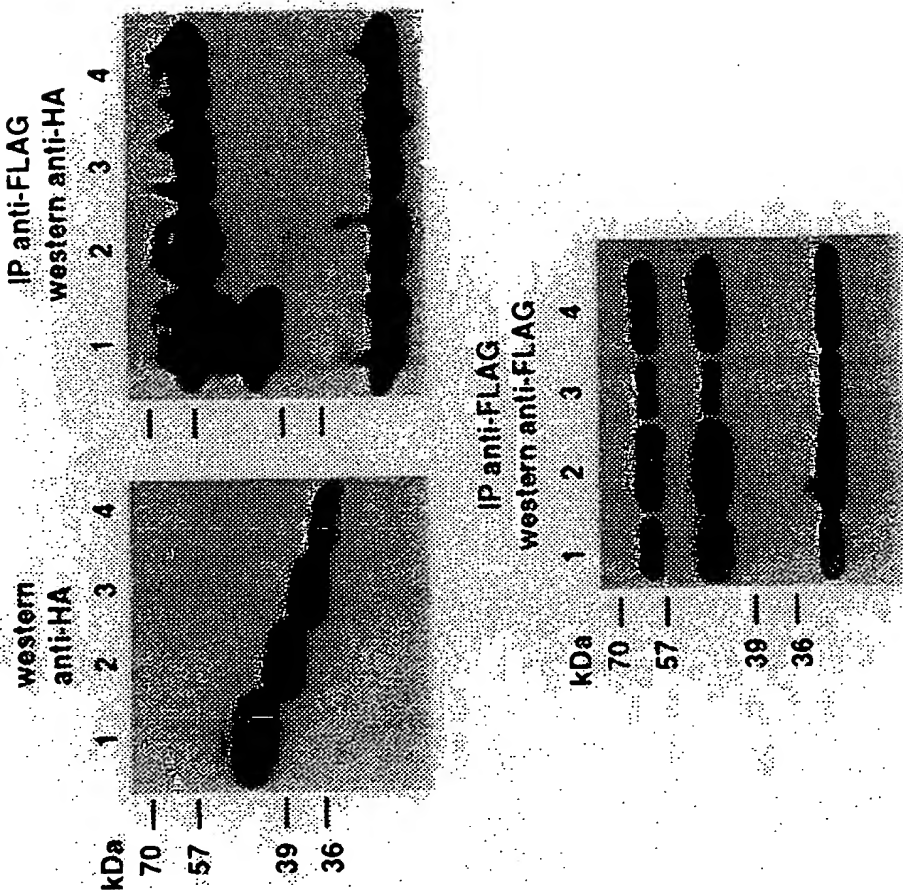
FIG. 12A



APPROVED	O.G. FIG.
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FIG. 12B

FIG. 12B



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